

sbM,* *iR* figure, Class I.; on March 3,† 1789, *pB*, *cL*, *i* Fig., *er*, many of the stars visible, so that it may be called a cluster." J. Herschel and d'Arrest estimated it as belonging to the third class. I observed it twice in May 1891, and found it "*F*, *pL*, diffused, perhaps double or with *vF* star involved south, very little or no condensation, irregular figure, barely second class." This is another case of an uncondensed nebula, and there does not seem any reason to think it variable. I may mention that the right ascension (according to *h*) adopted in the N. G. C. is correct, the nebula being 18^s following and 3'·9 north of the star *Munich* 8551.

In the *Astr. Nachr.*, No. 1520, d'Arrest announced that a small object stated by Schmidt to be 5^s preceding and 6' south of M 49 (*h* 1294) could not be seen by him, and that only two very small stars appeared in the place. As nothing has been seen in the place in question by any other observer, there seems no reason to assume that a nebula ever existed there. W. Herschel's II. 498 cannot have been the same as Schmidt's object, as H. would no doubt have pointed out that it was between II. 18 and M 49; and II. 498 is therefore beyond a doubt = II. 18.

Whatever view we take of the nature of nebulae, the question whether these objects vary in brightness must be considered as one of paramount importance. It is for this reason that I have thought it desirable to call attention to Mr. Swift's nebula; but it is with some reluctance that I have done so, as the greatest possible caution is necessary in deciding whether any change has really taken place in objects of this class. The lessons taught us by the satellite of *Venus* and the intra-mercurial planets ought to be kept well in mind when we feel inclined to draw important conclusions from very uncertain observations, which may admit of a different interpretation.

Note on the Variability of Es-Birm 673 = D.M. + 39° 42' 08.

By the Rev. T. E. Espin, B.A.

This star is No. 118 of my list of "Some New Red and Orange-red Stars," *Monthly Notices*, xlv. No. 5, p. 293. The brightness on the night of its discovery (1885 July 9) was 7·9, and it irregularly diminished to 9·0. Since this time it has been occasionally observed, and found to be practically invariable up to the present year. On comparing some of Dr. Wolf's photographs together I was struck by the differences in the magnitudes of this star. The colour is fine red, and consequently

* C. H. has "*sbM*," an important difference.

† C. H. has March 23.

the star is from two to three magnitudes fainter on the photographs. There are several small stars near, and on the night of November 19 their magnitudes were roughly estimated. The star is found on three of Dr. Wolf's photographs that he has kindly sent me. The third photograph is not dated, but, I believe, was taken in the beginning of November. The following are the magnitudes taken from the photographs :

1891 June 1	10.8
September 9 and 10	11.2
November	10.0

On November 19 the star was estimated as 7.6, and on November 26 as 7.8.

Tow Law, Darlington :

1891 December 9.

Note on the Stonyhurst Drawings of the Solar Spots and Faculæ.

By the Rev. Walter Sidgreaves.

At the commencement of the series of Sun-spot drawings, instituted by the late Fr. Perry in November 1880, it was decided to fill in the faculæ, so far as this could be done with certainty. No small difficulty was experienced in the attempt, for it seemed impossible to produce a faithful representation of them, and both the director and the observer were forced to be content with a skeleton tracing of the brighter parts which could be differentiated from the rest of the photosphere without chance of error. Experience, however, in the course of time, taught the observer the magic effect of motion imparted to a faint image; and as he slowly travelled the image of the Sun across the drawing-sheet, the patches stood out with a clearness of definition that excluded all doubt of the border-line between faculæ and photospheric glare. The method then adopted, and followed ever since, was first to outline the brighter parts upon the stationary image, and then to fill in the picture by sketching the fainter details taken from the image while moving it slowly to and fro across the paper. By this means a very trustworthy record was obtained; and it was much improved by adopting the suggestion, made by Sir G. Stokes in 1883, that the contrast of a red-lead tracing of the faculæ would greatly help the eye in its search through the drawings for the true relation between the dark spots and their glowing attendants. This is apparent in following the disturbances through all their changes, and in sifting their evidences for an answer to the query, Which is the forerunner of the other?